

APPLICATION 09/655792 Filed Sept. 6, 2000
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CLAIM AMENDMENTS

Claim 1 (currently amended): An integrated music system for use on a personal computer by [[a user]] users without any music background or knowledge comprising sub-systems consisting of an Instant Musician a music playing sub-system, Instant Recording Artist music recording/altering sub-system and Instant Composer music composing sub-system where the Instant Musician personal computer based music playing sub-system provides users a means to select and play numerous different musical numbers from a computer by means of typing letters displayed on the computer's display using the computer's standard computer keyboard and have the notes played on the standard computer keyboard sound like notes played from chosen musical instruments letters typed generate musical note sounds from the computer's sound system correspond to one of many different musical instrument sounds offered to the user for playing selected music numbers with said system apparatus comprising:

computer readable program instructions for executing the functions of the personal computer music playing sub-system including presenting on the computer display the sequence of standard computer keyboard keys to be pressed on the standard computer keyboard to activate the sounding of the correct sequence of stored musical note sounds corresponding to the instrument and music number selected by the computer user; and
storage means readable by computer readable media for storing a plurality of data sets or databases having all single musical note computer keyboard designations from an all inclusive sample music score covering each possible musical note tied in the database to recorded single musical notes from the actual sounds of a plurality of all known musical instruments including all musical note sounds of accordions, bugles, clarinets, cymbals, drums, flutes, guitars, harps, organs, pianos, saxophones, trumpets, tubas as well as other known musical instruments; and
storage means readable by computer readable media for storing a plurality of data sets or databases for a plurality of musical numbers or songs in which classical representations of musical notes and other musical score symbols are related in the database to keys on standard computer keyboards; and
display means and computer pointing device activation means and/or computer keyboard means for allowing users to select a particular stored musical number to play by pressing the

standard computer keyboard key sequences displayed on the screen from a plurality of stored music numbers in addition to the display of the traditional music score of the selected music number, for displaying standard computer keyboard keys correlated by the system described in claim 1 to the notes displayed by the system of the music score of a music piece or song selected by the user; and
display means and computer pointing device activation means and/or computer keyboard means for allowing users to select which musical instruments sounds are to be sounded when standard computer keyboard keys are actuated in addition to the display of the musical instrument selected; and
display means for highlighting the particular part (key, button, slide, etc.) of the music instrument selected that corresponds to the current note of the music score displayed; and
sound generation means for having personal computers generating sounds of stored musical note sounds of musical instruments when directed by the system software program in response to user personal computer keyboard key actions; and
sound pickup means for picking up and recording sounds detected by a microphone or other sound pickup device connected to the system personal computer.

Claim 2 (currently amended): An integrated music system for use on a personal computer by a user without any music background comprising sub-systems consisting of an Instant Musician a music playing sub-system, Instant Recording Artist music recording/altering sub-system and Instant Composer music composing sub-system where the Instant Recording Artist music recording/altering sub-system provides users a means to record, modify and combine music numbers with modifications including both music sound amplitude and frequency transformation modifications in selected frequency bands of selected previously recorded music numbers where the frequency transformation operations permit the generation of new sounds in frequency bands not generated in the original recordings and/or previously combined recordings and transformations of music sounds in selected music frequency bands to other selected frequency bands; with such sub-system comprising:

a process of generating combined displays of both the frequency spectrum analyzer and equalizer input functions in addition to frequency transformation screen-based input sections where users may depict desired frequency transformations desired previously recorded music files in addition to amplitude modifications in user inputted music frequency bands; and
a process of selecting and combining one or more music numbers previously recorded for combining with user inputted relative volume modifications, user inputted equalizer actions

and frequency transformations; and
a process for generating displays simultaneously for each selected music number showing
frequency spectrums of previously recorded music, superimposed equalizer settings selected
by the user, user selection of frequency transformation settings, music frequency spectrum
amplitudes as a result of equalizer and frequency transformation inputs by the user, relative
volume control settings, file names for music being combined, other descriptive labeling;
including file names, and the depiction of the instrument or other sound generation source
used to generate each selected music source; and
a process for saving altered or combined music files in file formats selected by the user.

Claim 3 (currently amended): An integrated music system for use on a personal computer by a user without any music background comprising sub-systems consisting of ~~an Instant Musician~~ a music playing sub-system, ~~Instant Recording Artist~~ music recording/altering sub-system and ~~Instant Composer~~ music composing sub-system where the ~~Instant Composer~~ music composing sub-system provides users a means to automatically compose or create new music numbers having both music scores, words and recorded music sounds automatically with such composed music pieces being able to be generated by several different personal computer input means including:
generating new music scores by inserting notes into blank music scores with a computer mouse ~~[[or]]~~ pointing device and having the inserted note create a corresponding
musical note sound for the last note or set of notes entered into the music score using the
sound of a chosen musical instrument, ~~[[or]]~~ and
generating new music score notes on music scores automatically by using a mouse ~~[[or]]~~
pointing device to in effect actuate the keys, buttons, slides, drums, symbols or other
musical instrument input devices displayed delineate places on a personal computer
screen depiction of a selected musical instruments instrument where corresponding each
mouse or other computer pointing device pointing action on the computer screen
depiction of the chosen musical instrument creates a corresponding note on the computer
screen depicted musical score along with the corresponding computer sound system
created musical instrument sound notes are to be added, ~~[[or]]~~ and by
generating music notes on a score by processing sounds inputted from a microphone or
other sound pick up device to the personal computer including sounds made by the user
by humming, whistling, singing, musical instrument playing, ~~[[or]]~~ and by
composing new music numbers by modifying music scores of previously recorded music
numbers by mouse ~~[[or other]]~~ pointing device actions on the displayed music scores of

these previously recorded music numbers, and
with such music composing sub-system comprising:

a storage means readable by computer readable media for storing a plurality of data sets or databases having all single musical note designations from an all inclusive sample music score covering each possible musical note tied in the database to recorded single musical notes from the actual sounds of a plurality of musical instruments including all musical note sounds of accordions, bugles, clarinets, cymbals, drums, flutes, guitars, harps, organs, pianos, saxophones, trumpets, tubas as well as other known musical instruments; and
a display means for displaying music scores generated by a variety of computer input means including: typing keys on a standard computer keyboard, pointing and clicking on displayed music scores using a mouse or other pointing device, or generating music scores from sounds picked up via a computer microphone or other computer sound input device produced by the system user who may produce sounds by humming, singing, whistling, musical instrument playing or by modification of previously recorded music scores via mouse dragging or other mouse operations or other pointing devices on music scores displayed; and
a sound generation means using a personal computer sound system for generating sounds of notes generated for music scores using sounds of instruments selected by users; and
a sound pickup means for picking up and recording sounds detected by a microphone or other sound pickup device connected to the system computer.

Claim 4 (canceled)

Claim 5 (currently amended): The Instant Musician personal computer music playing system or sub-system as in claim 1 [[claims 1 or 4]], wherein the computer readable program instructions allow displaying words or lyrics of musical numbers selected from databases of music numbers along with standard computer keyboard keys key sequences displayed that produce the sounds of the selected musical instrument sounds for the selected musical number chosen when these standard computer keyboard keys are actuated by the user in the order presented on the computer display.

Claim 6 (currently amended): The system as in claim 1 [[claims 1 or 4]], wherein the correlations between user typed keys on a standard computer keyboard and the musical notes interrupted interpreted by the system may be changed by the user to make sounds generated by the computer sound system from user keyboard entries represent other musical instrument sounds for any musical

numbers selected.

Claim 7 (currently amended): The system as in claim 1 [[claims 1 or 4]], wherein the musical instrument sounds generated by user keyboard input actions may be changed by the user to the sounds of different musical instruments, like changing the sounds of the computer keys being played from that of the sounds of a piano to the sounds of a flute.

Claim 8 (currently amended): The system as in claim 1 [[claims 1 or 4]], wherein the sounds created by the user from playing a music number from the computer keyboard keys are recorded on computer writeable portable storage devices.

Claim 9 (currently amended): The system as in claim 1 [[claims 1 or 4]], wherein a method of communication with the Internet is included for the purpose of downloading into the computer's memory or storage devices additional musical numbers complete with the correlations between standard keyboard keys and the notes of displayed music scores.

Claim 10 (currently amended): Computer readable program instructions containing executable instructions, in accordance with claim 1 [[claims 1 or 4]], for executing:

- a process of selecting a music number to be played by the user via a mouse, other pointing device or from standard computer keyboard key pressing from a database of stored musical numbers where music numbers may be played or sounded from the computer sound system by simply typing standard computer keyboard letters presented on the computer display; and
- a process of selecting a set of specific musical instrument note sounds to be sounded from standard computer keys when depressed from a database of many musical instrument sounds stored in the database; and
- a process for accepting user preference inputs on display options pertaining to whether the user prefers having a current musical note window to move over the current musical note to be displayed or whether the user prefers the music score to move on the display with the current music note window fixed in place on the display; and
- a process for allowing the user to elect whether a background music rhythm or accompaniment with a regular systematic beat is to be added to music sounds created [[,]] by the user's typing letters displayed on the computer screen and a process for selecting the relative volume and instrument sound of a background rhythm or accompaniment beat, if chosen.

Claim 11 (currently amended): Computer readable program instructions containing executable instructions, in accordance with claim 1 [[claim 4]], for executing a process of accepting user preference on whether the music number to be played by depressing computer keyboard keys shall be accompanied by the sounds of a second instrument that provides a periodic musical sound, and preferences related to the sound level and pitch of the second musical instrument sounds.

Claim 12 (currently amended): The ~~Instant Recording Artist~~ music recording/altering system or sub-system as in claim 2, said system sub-system comprising:

computer readable program instructions for executing the functions of the ~~Instant Recording Artist~~ music recording/altering sub-system that includes a frequency spectrum analyzer for computing the real-time frequency spectrum of previously recorded music numbers played by the system; and

display means for displaying ~~both the frequency~~[[/]] spectrum analyzer functions of single or multiple previously recorded music numbers chosen to be combined and the function of transmitting on screen frequency transformations transformation information entered by mouse or pointing device movement on of music recordings being played to the computer frequency transformation algorithms; and

storage means for storing music numbers being combined and the music number produced by combining and/or modifying music files; and

sound generation means for generating sounds on a personal computer sound system produced by combining previously recorded and/or modifying modified music files; and sound pickup means for picking up and recording sounds detected by a microphone or other sound pickup device connected to the system computer.

Claim 13 (currently amended): The system as in claim 2 or 12, wherein frequency spectrums ~~transformations~~ of music previously recorded are altered to different frequencies by user settings on the display.

Claim 14 (previously presented): The system as in claim 2 or 12, wherein the transformed frequency spectrum of previously recorded music is shown on the display along with the user's input of frequency transformations.

Claim 15 (currently amended): Computer readable program instructions containing instructions, in accordance with claims 2 or 12, for executing:
a process of generating combined displays of both the frequency spectrum analyzer and


- equalizer input functions in addition to frequency transformation screen-based input sections where users may depict desired frequency transformations desired on input by the user for previously recorded music files in addition to amplitude modifications in user inputted music frequency bands; and
- a process of selecting and combining one or more music numbers previously recorded for combining with user inputted or without relative volume modifications modifications, and either with or without user inputted equalizer actions and either with or without frequency transformations ~~selected by the user~~; and
- a process for generating displays simultaneously for each selected music number showing frequency spectrums of previously recorded music, superimposed equalizer settings selected by the user, user selection of frequency transformation settings, music frequency spectrum amplitudes as a result of equalizer and frequency transformation inputs by the user, relative volume control settings, file names for music being combined, other descriptive labeling; such as, including file names, and the depiction of the instrument or other sound generation source used to generate each selected music source; and
- a process for saving altered or combined music files in file formats selected by the user.

Claim 16 (canceled)

Claim 17 (currently amended): Computer readable program instructions containing instructions, in accordance with claim 3 ~~claims 3 or 16~~, for executing:

- a process of selecting the manner in which music is to be composed from choices of computer keyboard input and/or mouse or other pointing device input, microphone input of humming, singing, whistling, musical instrument input or other sound input, or music composing by modification of a previously recorded music score; and
- a process of generating blank music scores for display and a process for inserting selected music time signatures on the display; and
- a process of generating user preferences for the manner in which music is to be composed and the computer keyboard to music note relationships desired by the user; and
- a process for enabling the user to select the instrument sounds to be played upon entering notes into a music score displayed or when the user elects to play back segments of the music composed; and
- a process for generating a display depicting the music instrument selected corresponding to sounds generated during play back time segments; and
- a process enabling the user to save composed music in file formats of choice; and

a process enabling users to select, open and process previously recorded music files
complete with the automatic generation of music score displays for the purposes of
composing new music numbers by modification of previously recorded music numbers; and
a process of enabling users to enter words to music being composed by use of the computer
keyboard or with the assistance of voice recognition software; and
a process for the user to play back several different time durations of music composed.


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